

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (currently amended): A glow discharge detector, comprising:
 - a first annular member,
 - a pair of annular members mounted in spaced relation in said first annular member,
 - a member having a tapering end mounted in one of said pair of annular members, and
 - a solid ~~member~~ rod having a flat end mounted in another of said pair of annular members

with the flat end located closely adjacent the tapering end.
2. (original): The detector of Claim 1, wherein said first annular member comprises a glass tube.
3. (original): The detector of Claim 2, wherein said pair of annular members comprise a pair of stainless steel tubes.
4. (currently amended): The detector of Claim 3, wherein each of said member having a tapering end and said solid ~~member~~ rod is composed of tungsten.

Claims 5 and 6: (cancelled)

7. (currently amended): The detector of Claim 1, wherein said tapering end of said member is tapered to a point, and wherein said point is located closely adjacent to the flat end of said solid member rod.

8. (previously presented): The detector of Claim 1, additionally including an electrical circuit including a power supply, a capacitor, and a plurality of resistors.

9. (previously presented): The detector of Claim 8, wherein said capacitor is electrically connected intermediate a pair of resistors.

10. (original): The detector of Claim 9, wherein said pair of resistors are each of a different size.

11. (currently amended): In a hand-held gas chromatograph, the improvement comprising:
a direct current, constant wave glow discharge detector,
said detector including a solid rod anode having a flat end and
said detector including a member having a pointed end located closely adjacent the flat end
of the solid rod anode, said pointed end defining a probe whereby variations of electron density due
to trace amounts of impurities in a carrier gas of the gas chromatograph can be directly measured.

12. (original): The improvement of Claim 11, wherein the constant wave glow discharge of the detector is controlled through a biased resistor

13. (currently amended): The improvement of Claim 11, wherein said glow discharge detector includes:

an outer annular tube composed of glass,

a pair of annular tubes mounted in spaced relation in said outer annular tube and composed of stainless steel,

said probe being mounted in one of said spaced pair of annular tubes, with the pointed end thereof being located closely adjacent another of said pair of annular tubes, and said pointed end member being composed of tungsten, and

said solid rod anode being mounted in said another of said pair of annular tubes.

14. (previously presented): The improvement of Claim 13, wherein said member with the pointed end is mounted in said one of said pair of annular tubes by at least one pinched area in said one of said pair of annular tubes.

15. (currently amended): The improvement of Claim 14, wherein said member with the pointed end, said solid rod anode, and said pair of annular tubes are each mounted coaxially in said outer annular tube.

16. (original): The improvement of Claim 14, wherein said pair of annular tubes are only partially located within said outer annular tube.

17. (currently amended) The improvement of Claim 14, wherein, said member with the pointed end and said solid rod anode are composed of refractory metals with low work functions selected from

the group consisting of tungsten, molybdenum, and uranium or metals composed of copper or gold which would not be poisoned by oxygen.

18. (previously presented): The glow discharge detector of Claim 1, wherein said detector is controlled through a biased resistor.

19. (currently amended): The glow discharge detector of Claim 1, wherein said member having a tapered end and said solid member rod are each mounted coaxially in said first annular member.

20. (currently amended): The glow discharge detector of Claim 1, wherein said member having a tapered end and said solid member rod are mounted coaxially in said pair of annular members.

21. (currently amended): The glow discharge detector of Claim 1, wherein said member having a tapered end and said solid member rod are mounted in said pair of annular members so as to partially extend therefrom.

22. (previously presented): The glow discharge detector of Claim 1, wherein said pair of annular members are only partially located within said first annular member.